

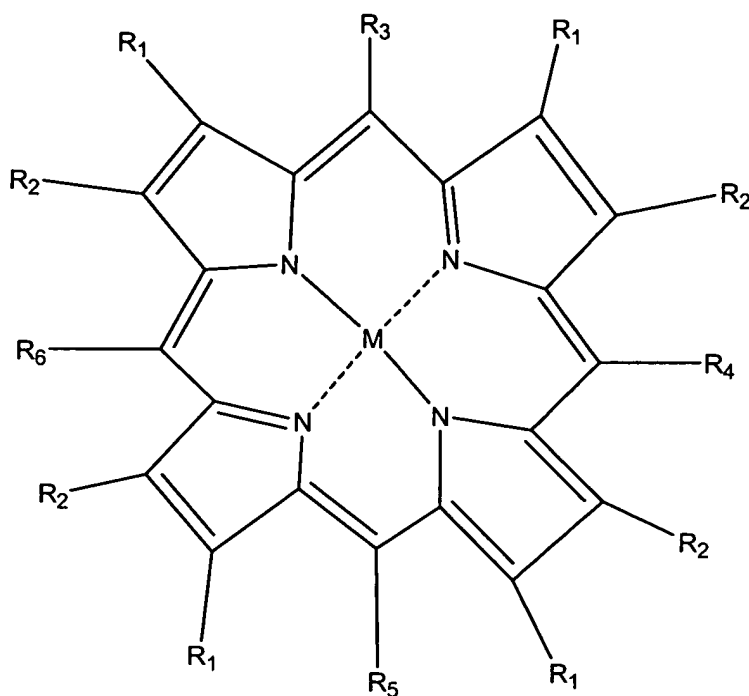
**[0091]**      We claim:

1            **1.**      A method for inhibiting or preventing a viral infection in a patient, said method  
2      comprising administering to the patient an effective amount of a compound comprising a  
3      porphyrin macrocycle, and further comprising one or more carboranyl groups that are  
4      linked to the porphyrin macrocycle by carbon-carbon bonding.

1            **2.**      A method as recited in Claim 1, wherein the patient is a human.

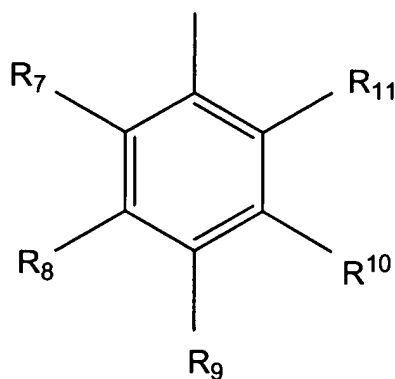
1            **3.**      A method as recited in Claim 2, wherein the method inhibits or prevents  
2      infection by human immunodeficiency virus.

4. A method as recited in Claim 1, wherein the compound has structure I:



I

wherein M is 2H or a metal ion; R1 and R2 are each independently hydrogen, C<sub>1</sub> to C<sub>4</sub> alkyl or hydroxyalkyl; and R3, R4, R5, and R6 are each independently hydrogen, phenyl, or substituted phenyl having structure II:



II

31 wherein R7, R8, R9, R10, and R11 are independently hydrogen or a carboranyl group,  
32 wherein such a carboranyl group is linked to the phenyl group by a carbon-carbon bond;  
33 and wherein one or two of R7, R8, R9, R10, and R11 are hydrogen, halide, hydroxide,  
34 alkoxide, sulfonate, or a substituted or unsubstituted alkyl or aryl; or such a carboranyl  
35 group; and  
36

37 wherein at least one of R3, R4, R5, and R6 is a substituted phenyl having structure II and  
38 having at least one such a carboranyl group.

1           **5.**     A method as recited in Claim 4, wherein at least two of R3, R4, R5, and R6  
2 are substituted phenyls having structure II and each having at least one such a carboranyl  
3 group.

1           **6.**     A method as recited in Claim 4, wherein each of R3, R4, R5, and R6 is a  
2 substituted phenyl having structure II and each having at least one such a carboranyl  
3 group.

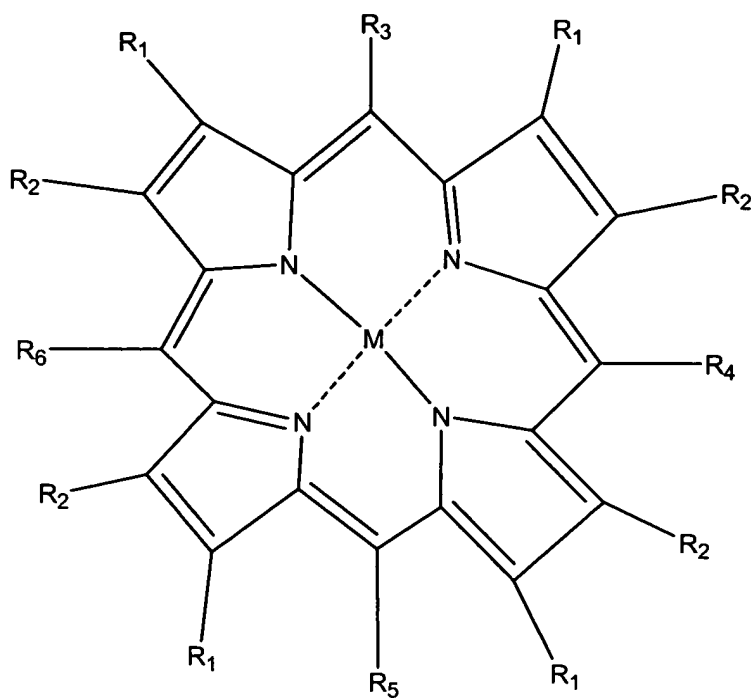
1           **7.**     A method as recited in Claim 4, wherein at least two of R3, R4, R5, and R6  
2 are substituted phenyls having structure II and each having at least one such a carboranyl  
3 group.

1           **8.**     A method as recited in Claim 1, additionally comprising the step of exposing  
2 tissue of the patient to light having a wavelength, intensity, and duration sufficient to  
3 significantly enhance the compound's inhibition or prevention of viral infection.

1           **9.**     A method as recited in Claim 1, wherein the compound is selected from the  
2 group consisting of Compounds **4, 6, 10, 12, 16, 18, 22, 24, 31, and 33.**

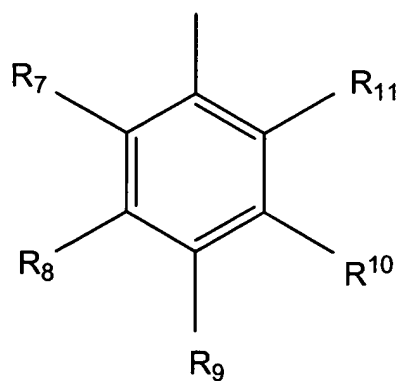
- 1           **10.**   A method as recited in Claim 1, wherein the compound is Compound **16**.
- 1           **11.**   A method as recited in Claim 1, wherein the compound is Compound **31**.
- 1           **12.**   A method as recited in Claim 1, wherein the compound is Compound **33**.
- 2
- 3           **13.**   A method for killing or inhibiting viruses in or on a material, said method  
4 comprising treating the material with an effective amount of a compound comprising a  
5 porphyrin macrocycle, and further comprising one or more carboranyl groups that are  
6 linked to the porphyrin macrocycle by carbon-carbon bonding.
- 1           **14.**   A method as recited in Claim 13, wherein the method kills or inhibits the  
2 human immunodeficiency virus.

15. A method as recited in Claim 13, wherein the compound has structure I:



I

wherein M is 2H or a metal ion; R1 and R2 are each independently hydrogen, C<sub>1</sub> to C<sub>4</sub> alkyl or hydroxyalkyl; and R3, R4, R5, and R6 are each independently hydrogen, phenyl, or substituted phenyl having structure II:



II

31 wherein R7, R8, R9, R10, and R11 are independently hydrogen or a carboranyl group,  
32 wherein such a carboranyl group is linked to the phenyl group by a carbon-carbon bond;  
33 and wherein one or two of R7, R8, R9, R10, and R11 are hydrogen, halide, hydroxide,  
34 alkoxide, sulfonate, or a substituted or unsubstituted alkyl or aryl; or such a carboranyl  
35 group; and

36  
37 wherein at least one of R3, R4, R5, and R6 is a substituted phenyl having structure II and  
38 having at least one such a carboranyl group.

1           **16.**   A method as recited in Claim 15, wherein at least two of R3, R4, R5, and R6  
2 are substituted phenyls having structure II and each having at least one such a carboranyl  
3 group.

1           **17.**   A method as recited in Claim 15, wherein each of R3, R4, R5, and R6 is a  
2 substituted phenyl having structure II and each having at least one such a carboranyl  
3 group.

1           **18.**   A method as recited in Claim 15, wherein at least two of R3, R4, R5, and R6  
2 are substituted phenyls having structure II and each having at least one such a carboranyl  
3 group.

1           **19.**   A method as recited in Claim 13, additionally comprising the step of exposing  
2 the material to light having a wavelength, intensity, and duration sufficient to significantly  
3 enhance the compound's killing or inhibition of viruses.

1           **20.**   A method as recited in Claim 13, wherein the compound is selected from the  
2 group consisting of Compounds **4, 6, 10, 12, 16, 18, 22, 24, 31, and 33.**

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- 1           **21.**    A method as recited in Claim 13, wherein the compound is Compound **16**.
- 1           **22.**    A method as recited in Claim 13, wherein the compound is Compound **31**.
- 1           **23.**    A method as recited in Claim 13, wherein the compound is Compound **33**.